Gladiolus Rust

Uromyces transversalis, cause of Gladiolus rust, is considered of plant quarantine importance in Europe and the United States. This fungus attacks principally hybrid cultivars of *Gladiolus* grown for flower production and could have significant impact if the fungus became established or was transported into greenhouses or nurseries.

Uromyces transversalis (Thüm.) G. Winter, 1884. Flora 67: 263.

Spermogonia and aecia unknown.

Uredinia amphigenous, yellowish-orange, round to oblong or irregular, but typically transverse (horizontal), 0.5-1.5 mm long and 0.5 (-2) mm broad, sori at first covered by the blistered epidermis which finally splits; urediniospores variable in form and size, ovate, ellipsoid or oblong, 14-26 × 13-25 µm, cell wall hyaline, typically 1.5(-2) µm thick, closely and minutely verruculose; germ pores obscure, 6-8, scattered.

Telia minute, black, remaining covered by the epidermis, in small or larger groups, which may be scattered, often grouped and loculate, separated by a zone of golden-brown, palisade-like paraphyses, 50-112.5 µm diam., 55 -75 µm deep with spores in 3-4 closely packed rows. Teliospores ovate, ellipsoid or pyriform, less frequently globose, often irregular or angular through mutual pressure, light brown, darker (often chestnut brown) near the apex, apex rounded, truncate or broadly conical, base usually attenuate, less frequently rounded; (17.5-) 20-25 (-34) × (14-) 15-17.5 (-21) µm, cell wall smooth, usually 2 µm thick, 4-6 (-8) µm at the apex; pedicel semipersistent, hyaline or tinted at the apex, 45 µm long and 3 µm thick.

Host: On leaves of tropical members of the Iridaceae, known from *Crocosmia*, *Gladiolus*, *Tritonia*, and *Watsonia*.

Geographic Distribution: This rust is apparently indigenous to eastern and southern Africa. It has also been reported from Morocco, southern Europe (questionably from France and, Spain, possibly established in Italy, Malta, and Portugal), South America (Argentina, Brazil), Martinique, Australia, New Zealand and has recently been intercepted from Mexico.

Specimens Examined: BPI 863538, BPI 841104

Other specimens examined: on *Tritonia securigera* (Ait.) Ker Gawl., South Africa, Somerset East, July 1876, leg. MacOwan 1264 (BPI 017810, BPI 017828, BPI 017827, Thümen Mycotheca Universalis 1244) II-III, Type of *Uredo transversalis* Thüm.

Uromyces transversalis is named for the transverse sori that develop across the width of the leaves, as compared to most rusts on monocots whose sori burst through longitudinally along the veins of the leaf.

A second rust species on *Gladiolus*, namely *Uromyces gladioli* Henn. was originally described from South Africa and has been reported from several African countries, Argentina and Uruguay. *Uromyces gladioli* produces telia without paraphyses, scattered or in a row between the veins of the leaf, and teliospores measuring 22.5-35 × 20-25 µm. A third species of *Uromyces*, *U. nyikensis* Syd. on *Gladiolus erectiflorus* Baker, is not considered of economic importance. Only telia were described that occur along the veins and teliospores measure 19-32 × 14-22 µm.

Suggested citation: Hernández, J.R.. Systematic Mycology and Microbiology Laboratory, ARS, USDA. 10 November 2004. Invasive Fungi. Gladiolus Rust. Retrieved October 6, 2007, from http://nt.ars-grin.gov/sbmlweb/fungi/index.cfm .

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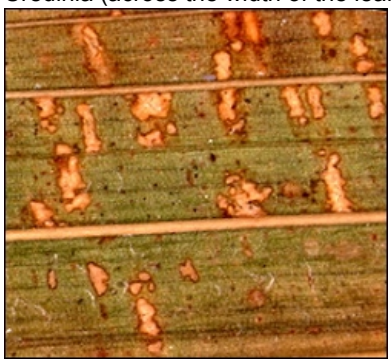
Uredinia BPI 863538, ELP TX 66823

Uredinia, erumpent, across the width of the leaf BPI 863538, ELP TX 66823

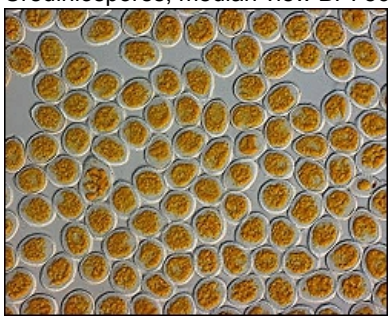
Uredinia (yellowish) and telia (dark) BPI 841104

Uredinia (across the width of the leaf) and telium (dark) BPI 863538, ELP TX 66823

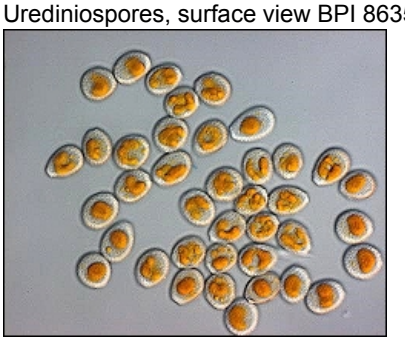
Uredinia (across the width of the leaf) BPI 841104



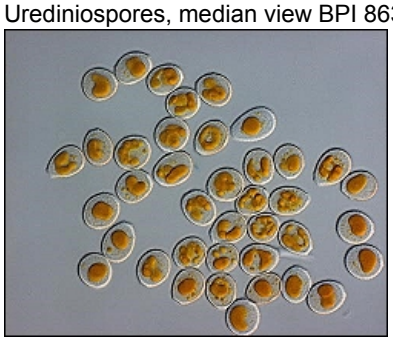
Urediniospores, median view BPI 863538, ELP TX 66823



Urediniospores, surface view BPI 863538, ELP TX 66823



Urediniospores, median view BPI 863538, ELP TX 66823



Teliospores BPI 841104

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